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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant(s) : Gebhard MICHENFELDER et al.  
Serial No. : 09/673,063  
Filed : January 4, 2001  
For : RAIN SENSOR  
Examiner : Michael P. STAFIRA  
Art Unit : 2877  
Confirmation No. : 9602

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Jong H. Lee

**APPELLANTS' REPLY BRIEF IN RESPONSE TO  
EXAMINER'S ANSWER (UNDER 37 C.F.R. § 1.193)**

S I R :

In reply to the Examiner's Answer mailed on October 30, 2002 regarding the above-identified application, Applicants submit the following arguments in support of the appeal of the final rejection.

**RELATED APPEALS AND INTERFERENCES**

In contrast to the Examiner's assertion in the Examiner's Answer, Applicants did provide a statement concerning related appeals and interferences on page 2 of the Appeal Brief dated August 12, 2002.

## ARGUMENT

### A. Rejection of Claims 20-24, 27-29, 38 and 41

The Examiner has rejected claims 20-24, 27-29, 38 and 41 under 35 U.S.C. §102(e) as anticipated by Teder. Respectfully, Applicants traverse for the following reasons.

Examiner argues in the Examiner's Answer that "[i]t's the position of the examiner that the coupler (24) of Teder ('303) is clearly shown in figure 2 being attached to the housing (28), therefore forming a cover to the housing and being clearly anticipated in view of applicants claimed limitation," and that "since . . . the sensor housing (28) is detachably secured about the outer edges of the coupler . . . it forms a cover." However, Applicants' argument has been that the claimed limitation of "a housing including a light conducting element forming a cover of the housing" as recited in claim 20 requires the light conducting element to be an **integral component of the housing structure** and also serve as the cover, i.e., the housing and the light conducting element form a single integral housing unit. As acknowledged by the Examiner, "since . . . the sensor housing (28) is detachably secured about the outer edges of the coupler," the cover and the housing disclosed in Teder are not integral.

For at least the foregoing reasons, it is clear that Teder simply does not anticipate claim 20. Furthermore, since claims 21-24, 27-29, 38 and 41 depend from claim 20, Teder does not anticipate claims 21-24, 27-29, 38 and 41. Withdrawal of the rejection of these claims is therefore respectfully requested.

### Rejection of claims 25 and 26

The Examiner has rejected claims 25 and 26 under 35 U.S.C. §103(a) as unpatentable over Teder in view of Zettler. In the Examiner's Answer, the Examiner "admits that the reference of Zettler et al. ('245) fails to disclose an analysis unit connected to the connector and located downstream of the sensor," as required by claim 25 and its dependent claim 26, but the Examiner contends that "its well known in the art to remotely

connect sensors to an analysis unit via a cable connection as shown in the cited art of Hasch et al. ('669) so as to provide the analysis unit in a remote area for protection from environmental conditions.” However, this is an entirely new argument, which was not raised in the final Office Action. In the final Office Action, the Examiner relied solely on Teder and Zettler, specifically relying on Zettler for teaching an electrical connection to a downstream analysis unit for a remote connection sensor. (Final Office Action, p. 5). Since 37 C.F.R 1.193(a)(2) clearly indicates that “[a]n examiner’s answer must not include a new ground of rejection,” Applicants respectfully note that the Examiner’s argument contained in the Examiner’s Answer may not be considered. Furthermore, the Examiner’s new argument explicitly “admits that the reference of Zettler et al. ('245) fails to disclose an analysis unit connected to the connector and located downstream of the sensor,” the rejection of claim 25 and its dependent claim 26 should be reversed.

#### Rejection of Claim 30

The Examiner has rejected claim 30 under 35 U.S.C. §103(a) as unpatentable over Teder in view Reime. In the Examiner’s Answer, the Examiner presents the following arguments with respect to claim 30 (and its parent claim 29): a) since applicants failed to disclose where the downstream analysis circuit is located, one can assume that the circuit is provided in the same enclosure, but away from the optical components as shown in Teder ('303); and b) therefore, the optical sensor (Fig. 3, Ref. 58) of Teder ('303) producing an output signal in communication with the downstream circuit (processing circuit Figure 3, Ref. 80A-80D), which is positioned away from the sensor, inherently produces a downstream circuit and therefore reads on the claimed limitation of claim 29.

Applicants note that the Examiner’s assumptions regarding the “downstream analysis circuit” are incorrect. The meaning of “downstream analysis circuit” as used in the present application clearly requires that the “downstream analysis circuit” be positioned outside the housing of the rain

'sensor: Fig. 1b and the associated description of p. 4, l. 13-19, clearly note that a connector 38, which **extends outside the housing of the rain sensor**, connects the rain sensor 4 to the downstream analysis circuit, which means the downstream analysis cannot be contained within the same housing of the rain sensor. Furthermore, the Examiner's proposed modification would undoubtedly increase the size of the moisture sensor and, in the process, frustrate one of the primary objects of Teder: to provide a more compact sensor. (See Teder, col. 4, lines 63-67). Accordingly, the Examiner's proposed combination of Teder and Reime would impermissibly change the principle of operation of Teder: Teder was designed to operate as an "all inclusive" single-unit moisture sensor, not a dual-unit moisture sensor and analysis unit.

Independent of the above, Applicants note that claim 30 ultimately depends from claim 20, and Reime simply does not cure the deficiencies of Teder as applied to claim 20, i.e., Reime does not disclose an integral "housing including a light conducting element **forming a cover** of the housing."

For at least the foregoing reasons, the rejection of claim 30 should be reversed.

#### Rejection of Claims 31 and 32

The Examiner has rejected claims 31 and 32 under 35 U.S.C. §103(a) as unpatentable over Teder in view of Watanabe. Applicants note that claims 31 and 32 ultimately depend from claim 20, and that Watanabe does not cure the deficiencies of Teder as applied to parent claim 20 because Watanabe does not disclose an integral "housing including a light conducting element **forming a cover** of the housing," as recited in claim 20.

For at least the foregoing reason, the rejection of claims 31 and 32 should be reversed.

#### Rejection of Claims 33 and 34

The Examiner has rejected claims 33 and 34 under 35 U.S.C. §

§103 as unpatentable over Teder in view of O'Farrell. Applicants note that claims 33 and 34 ultimately depend from claim 20, and that O'Farrell does not cure the deficiencies of Teder as applied to parent claim 20 because O'Farrell does not disclose an integral "housing including a light conducting element **forming a cover** of the housing," as recited in claim 20.

Moreover, the Examiner's suggested combination of Teder and O'Farrell clearly does not disclose the "aperture angle" feature of claim 34. In contrast to the ambient light sensor of claim 34, there is no teaching in either of the applied references that the ambient light sensor "includes an aperture angle of approximately 40° inclined upward with an aperture direction in a direction of travel."

For at least the foregoing reasons, the rejection of claims 33 and 34 should be reversed.

#### Rejection of Claims 35 and 36

The Examiner has rejected claims 35 and 36 under 35 U.S.C. §103 as unpatentable over Teder in view of O'Farrell, and further in view of Hasch. It is the position of the Examiner that since "Hasch et al. ('669) fails to disclose any type of filter that filters out unwanted light in the sensor, it is therefore assumed that the sensor is measuring a broad spectrum of light including ultraviolet light, therefore reading on applicants claim."

Initially, it is noted that claims 35 and 36 ultimately depend from claim 20, and as such, the above argument with respect to the anticipation rejection of claim 20 applies equally to claims 35 and 36. Furthermore, Hasch does not cure the deficiencies of Teder and O'Farrell as applied against the parent claim 20 because Hasch does not disclose an integral "housing including a light conducting element **forming a cover** of the housing," as recited in claim 20.

Regarding the Examiner's assertion that "it is . . . assumed that the sensor is measuring a broad spectrum of light including ultraviolet light," nothing in Hasch supports this assertion. First, nothing in Hasch discloses that receiver element 15 is operable to detect ultraviolet light, as

recited in claim 35. While the Examiner's conclusion is based on the premise that the receiver element 15 of Hasch is sensitive to all ranges of light, Hasch expressly states that the receiver element and the transmitter element are sensitive to **inferred light**, not ultraviolet light, (See Hasch, col. 5, lines 14-20). Unlike claim 35, Hasch is not directed to detecting ultraviolet ambient light conditions for generating a signal dependent on ambient light for an automatic light control or for a day/night changeover; rather, Hasch detects ambient light conditions for the sole purpose of ensuring that its sensor system functions correctly, and for this purpose the Hasch system uses **inferred transmitting and receiving elements** which are only concerned with ambient **inferred light** that may cause interference. Since detection of ultraviolet light is simply irrelevant to the operation of the sensor system of Hasch, it is illogical to assume that such detection occurs in the sensor system of Hasch.

For at least the foregoing reasons, it is respectfully submitted that Teder, O'Farrell, and Hasch, whether considered individually or in combination, do not disclose each and every element of claim 35 and, as such, do not render claim 35 obvious. Furthermore, since claim 36 depends from claim 35, Teder, O'Farrell, and Hasch do not render claim 36 obvious for at least the same reasons. Withdrawal of the rejection of claims 35 and 36 is therefore respectfully requested.

#### Rejection of Claims 37, 39 and 40

The Examiner has rejected claims 37, 39 and 40 under 35 U.S.C. §103 as unpatentable over the Teder in view of Zettler. Respectfully, Applicants traverse.

It is noted that claims 37, 39, and 40 each depend from claim 20, and as such, the above argument with respect to the anticipation rejection of claim 20 applies equally to these claims. Furthermore, as stated above, Zettler does not cure the deficiencies of Teder as applied to claim 20 because Zettler does not disclose an integral "housing including a light conducting element **forming a cover** of the housing," as recited in claim 20,

from which claims 37, 39, and 40 depend.

For at least the foregoing reasons, Teder and Zettler, whether considered individually or in combination, do not disclose, teach, or suggest the subject matter of claims 37, 39, and 40. As such, Teder and Zettler simply do not render these claims obvious. Withdrawal of the rejection of claims 37, 39, and 40 is therefore respectfully requested.

#### CONCLUSION

For the foregoing reasons, it is respectfully submitted that the final rejection of claims 20-41 should be reversed.

Respectfully submitted,

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Dated: 12/23, 2002

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